

## ABSTRACT OF THE DISCLOSURE

One or more embodiments of the invention comprises a collection of techniques to infer the real construction of a collection of graphical elements.

Typically the underlying graphical elements of a physical object have a parent-child

5 relationship in the graphical display and picking database. The invention examines the

children of a parent seeking relationships like co-linear, closed polygon, etc., and then

answers "hit" detect queries for areas that are not specifically stroked, but are also

inferred to be "real", e.g., spaces in a dashed or patterned line, the area of a closed

polygon, etc. Certain allowances and flexibility must be taken into account in this

10 process. For example, one or more embodiments do not include "text" children on a

stroke by stroke basis, but instead may look to the bounding box of the text for

selection. One or more embodiments of the invention obtain a selection request from

the user. The system and method of the invention examines existing objects to

determine and obtain relationships between the objects. Virtual objects that join the

15 existing objects or are complimentary to the existing objects are created based on the

relationships. Subsequently, whenever an object is selected (whether the object is an

existing object or a virtual object), the object selected and its related objects are

selected. In this manner, the physical shape of a graphically represented object may be

inferred and utilized by a graphics program and users.

"Express Mail" service label number: **EL540749921US**  
Date of Deposit: **March 1, 1990**  
I hereby certify that this paper or file is being deposited with the United States Patent Service, "Express Mail Office to Addressee" service under 37 CFR 1.802, the date indicated above and to be addressed to:  
Assistant Commissioner for Patents, Washington, DC 20530.  
• **Adrienne M. Baird**  
Patent Attorney

*Adrienne M. Baird*  
Patent Attorney

0958508-060100